

What is claimed is:

1. A composition comprising an admixture of a
colloidal metal and a biologically-active factor.

5 2. The composition of Claim 1, wherein the
colloidal metal is selected from the group consisting of colloidal
gold and colloidal silver.

10 3. The composition of Claim 1, wherein the
biologically-active factor is a cytokine, a growth factor, a
chemotherapeutic agent, a target molecule, a glycoprotein or a
combination of biologically-active factors.

15 4. The composition of Claim 1, wherein the
immunologically toxic biologically-active factor is selected from
the group consisting of Interleukin-2 ("IL-2"), lipid A,
phospholipase A2, endotoxins, staphylococcal enterotoxin B, Type
I Interferon, Type II Interferon, Tumor Necrosis Factor, IL-1,
IL-6, IL-S, IL-4, Transforming Growth Factor-B, Lymphotoxin,
20 IL-5, Migration Inhibition Factor, IL-3, Granulocyte Macrophage
Colony-Stimulating Factor ("CS F"), Monocyte -Macrophage
CSF, Granulocyte CSF, IL-7, IL-10, IL-11, IL-12, IL-13, vascular
epithelial growth factor ("VEGF"), Angiogenin, transforming
growth factor ("TGF α "), heat shock proteins, carbohydrate
25 moieties of blood groups, Rh factors, hormones, receptors, DNA,
glucose, antibodies, and fibroblast growth factor.

30 5. The composition of Claim 1, further comprising
a pharmaceutically-acceptable component selected from the group
consisting of excipients, buffers, antigen stabilizers, and sterilized
carriers.

6. The composition of Claim 1, further comprising a pharmaceutically acceptable adjuvant.

5 6. The composition of Claim 6, wherein the adjuvant is selected from the group consisting of Freund's Complete, lipopolysaccharide, monophosphoryl lipid A, muramyl dipeptide, liposomes containing lipid A, alum, muramyl tripeptide-phosphatidyl-ethanolamine, keyhole limpet hemocyanin, and Freund's Incomplete Adjuvant.

10 8. A composition capable of targeting a particular tissue comprising a colloidal metal associated with a target molecule and a biologically-active factor.

15 9. A method of administering a biologically-active factor to a human or animal comprising the step of administering to the human or animal, an effective amount of a composition comprising an admixture of a colloidal metal and the biologically-active factor.

20 10. The method of Claim 9, wherein the toxic biologically-active factor is selected from the group consisting of Interleukin-2 ("IL-2"), lipid A, phospholipase A2, endotoxins, staphylococcal enterotoxin B, Type I Interferon, Type II Interferon, tumor necrosis factor, IL-1, IL-6, IL-8, IL-4, Transforming Growth Factor-B, Lymphotoxin, IL-S, Migration Inhibition Factor, IL-3, Granulocyte-Macrophage Colony-Stimulating Factor ("CSF"), Monocyte-Macrophage CSF, Granulocyte CSF, IL-7, IL-10, IL-11, IL-12, IL-13, vascular epithelial growth factor ("VEGF"), Angiogenin, transforming growth factor alpha ("TGF α "), transforming growth factor beta ("TGF β "), heat shock proteins, carbohydrate moieties of blood groups, Rh factors, hormones, receptors, DNA, glucose,

factor

5 16. The method of Claim 15, wherein the toxic biologically-active factor is selected from the group consisting of Interleukin-2 ("IL-2"), lipid A, phospholipase A2, endotoxins, staphylococcal enterotoxin B, Type I Interferon, Type II Interferon, tumor necrosis factor, IL-1, IL-6, IL-8, IL-4, Transforming Growth Factor-B, Lymphotoxin, IL-5, Migration Inhibition Factor, IL-3, Granulocyte -Macrophage Colony -Stimulating Factor ("CSF"), Monocyte-Macrophage CSF, Granulocyte CSF, IL-7, IL-10, IL-11, IL-12, IL-13, vascular epithelial growth factor ("VEGF"), Angiogenin, transforming growth factor alpha ("TGF α "), transforming growth factor beta ("TGF β "), heat shock proteins, carbohydrate moieties of blood groups, Rh factors, hormones, receptors, DNA, glucose, antibodies, and fibroblast growth factor.

10 17. ¹³ The method of Claim 15, " wherein the composition is administered in a single dose.

15 18. ¹⁴ The method of Claim 17, " wherein the composition is administered in multiple doses.

20 19. A method for the delivery of one or more biologically-active factors comprising administering to a human or animal a composition comprising one or more biologically-active factors bound to a colloidal metal.

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antibodies, and fibroblast growth factor.

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11. A method of vaccinating a human or animal against disease comprising the step of administering to the human or animal a composition comprising an immunologically effective amount of an admixture of a colloidal metal and a biologically-active factor.

10 12. The method of Claim 11, wherein the toxic biologically-active factor is selected from the group consisting of interleukin-2 ("IL-2"), lipid A, phospholipase A2, endotoxins, staphylococcal enterotoxin B, Type I Interferon, Type II Interferon, tumor necrosis factor, IL-1, IL-6, IL-8, IL-4, Transforming Growth Factor-B, Lymphotxin, IL-5, Migration Inhibition Factor, IL-3, Granulocyte -Macrophage Colony-Stimulating Factor ("CSF"), Monocyte-Macrophage CSF, Granulocyte CSF, IL-7, IL-10, IL-11, IL-12, IL-13, vascular epithelial growth factor ("VEGF"), Angiogenin, transforming growth factor ("TGF α "), heat shock proteins, carbohydrate moieties of blood groups, Rh factors, hormones, receptors, DNA, glucose, antibodies, and fibroblast growth factor.

15 13. The method of Claim 11, wherein the composition is administered in a single dose.

20 14. The method of Claim 11, wherein the composition is administered in multiple doses.

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15. A method of treating a human or animal with a cancer or immune disease comprising the step of administering to the human or animal with the cancer or immune disease a therapeutically effective amount of a composition comprising an admixture of a colloidal metal and a toxic biologically-active

20. The method of Claim 19 wherein the biologically active factor is selected from the group consisting of Interleukin-1 α ("IL-1 α "), Interleukin-1 β ("IL-1 β "), Interleukin-2 ("IL-2"), Interleukin-3 ("IL-3"), Interleukin-4 ("IL-4"), Interleukin-5 ("IL-5"), Interleukin-6 ("IL-6"), Interleukin-7 ("IL-7"), Interleukin-8 ("IL-8"), Interleukin-9 ("IL-9"), Interleukin-10 ("IL-10"), Interleukin-11 ("IL-11"), Interleukin-12 ("IL-12"), Interleukin-13 ("IL-13"), lipid A, phospholipase A2, endotoxins, staphylococcal enterotoxin B, Type I Interferon, Type II Interferon, tumor necrosis factor ("TNF α "), Transforming Growth Factor- β , Lymphotoxin, Migration Inhibition Factor, Granulocyte -Macrophage Colony -Stimulating Factor ("CSF"), Monocyte-Macrophage CSF, Granulocyte CSF, vascular epithelial growth factor ("VEGF"), Angiogenin, transforming growth factor alpha ("TGF α "), transforming growth factor beta ("TGF β "), heat shock proteins, carbohydrate moieties of blood groups, Rh factors, fibroblast growth factor, chemotherapeutic drugs, AZT, DNA, RNA, sense, and antisense.

21. A method for the targeted delivery of one or more biologically-active factors comprising administering to a human or animal a composition comprising one or more biologically-active factors wherein at least one of the biologically-active factors is a target molecule capable of binding a receptor on a cell membrane.

22. The method of Claim 21 wherein the biologically-active factor is selected from the group consisting of Interleukin-1 α ("IL-1 α "), Interleukin-1 β ("IL-1 β "), Interleukin-2 ("IL-2"), Interleukin-3 ("IL-3"), Interleukin-4 ("IL-4"), Interleukin-5 ("IL-5"), Interleukin-6 ("IL-6"), Interleukin-7 ("IL-7"), Interleukin-8 ("IL-8"), Interleukin-9 ("IL-9"), Interleukin-10 ("IL-10"), Interleukin-11 ("IL-11"), Interleukin-12 ("IL-12"), Interleukin-13 ("IL-13"), lipid A, phospholipase A2, endotoxins, staphylococcal enterotoxin B, Type I Interferon, Type II Interferon, tumor necrosis factor ("TNF α "), Transforming Growth Factor- β , Lymphotoxin, Migration Inhibition Factor, Granulocyte -Macrophage Colony -Stimulating Factor ("CSF"), Monocyte-Macrophage CSF, Granulocyte CSF, vascular epithelial growth factor ("VEGF"), Angiogenin, transforming growth factor alpha ("TGF α "), transforming growth factor beta ("TGF β "), heat shock proteins, carbohydrate moieties of blood groups, Rh factors, fibroblast growth factor, chemotherapeutic drugs, AZT, DNA, RNA, sense, and antisense.

23. The method of Claim 21 wherein the target molecule is selected from the group consisting of Interleukin-1 ("IL-1"), Interleukin-2 ("IL-2"), Interleukin-3 ("IL-3"), Interleukin-4 ("IL-4"), Interleukin-5 ("IL-5"), Interleukin-6 ("IL-6"), Interleukin-7 ("IL-7"), Interleukin-8 ("IL-8"), Interleukin-10 ("IL-10"), Interleukin-11 ("IL-11"), Interleukin-12 ("IL-12"), Interleukin-13 ("IL-13"), Type I Interferon, Type II Interferon, Tumor Necrosis Factor ("TNF α "), Transforming Growth Factor- β ("TGF- β "), vascular epithelial growth factor ("VEGF"), receptor proteins, glucose, glycogen, phosphoipids, and monoclonal and/or polyclonal antibodies, and transforming growth factor ("TGF α ").

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B24* 24. A method of treating a human or animal with cancer or an immune disease comprising administering to a human or animal a composition comprising one or more biologically-active factors wherein at least one of the biologically-active factors is a target molecule capable of binding high affinity receptor on a cell membrane.

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C1* 25. The method of Claim 24 wherein the biologically-active factor is selected from the group consisting of Interleukin-1 α ("IL-1 α "), Interleukin-1 β ("IL-1 β "), Interleukin-2 ("IL-2"), Interleukin-3 ("IL-3"), Interleukin-4 ("IL-4"), Interleukin-5 ("IL-5"), Interleukin-6 ("IL-6"), Interleukin-7 ("IL-7"), Interleukin-8 ("IL-8"), Interleukin-9 ("IL-9"), Interleukin-10 ("IL-10"), Interleukin-11 ("IL-11"), Interleukin-12 ("IL-12"), Interleukin-13 ("IL-13"), lipid A, phospholipase A2, endotoxins, staphylococcal enterotoxin B, Type I Interferon, Type II Interferon, tumor necrosis factor ("TNF α "), Transforming Growth Factor- β , Lymphotoxin, Migration Inhibition Factor, Granulocyte -Macrophage Colony -Stimulating Factor ("CSF"), Monocyte-Macrophage CSF, Granulocyte CSF, vascular epithelial growth factor ("VEGF"), Angiogenin, transforming growth factor alpha ("TGF α "), transforming growth factor beta ("TGF β "), heat shock proteins, carbohydrate moieties of blood groups, Rh factors, fibroblast growth factor, chemotherapeutic drugs, AZT, DNA, RNA, sense, and antisense.

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26. The method of Claim 30 wherein the target molecule is selected from the group consisting of Interleukin-1 ("IL-1"), Interleukin-2 ("IL-2"), Interleukin-3 ("IL-3"), Interleukin-4 ("IL-4"), Interleukin-5 ("IL-5"), Interleukin-6 ("IL-6"), Interleukin-7 ("IL-7"), Interleukin-8 ("IL-8"), Interleukin-10 ("IL-10"), Interleukin-11 ("IL-11"), Interleukin-12 ("IL-12"), Interleukin-13 ("IL-13"), Type I Interferon, Type II Interferon, Tumor Necrosis Factor ("TNF α "), Transforming Growth Factor- β ("TGF β "), vascular epithelial growth factor ("VEGF"), receptor proteins, glucose, glycogen, phosphoipids, and monoclonal and/or polyclonal antibodies, and transforming growth factor alpha ("TGF α ").

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